

**ABSTRACT OF THE DISCLOSURE**

A containment enclosure system at least a portion of which is double-walled. An exemplary system of the invention provides enhanced leak protection by monitoring the space within the double-walled portion of the containment enclosure system. The system is capable of providing continuous monitoring of the enclosure, collar, penetrations, and/or joints for potential leaks. Containment enclosures of the invention may be used as, used with, or attached to tanks, piping, dispensers, or any other type of storage container including vessels, boxes, spheres or containers of any shape. These containment enclosures may be underground, partially underground, or aboveground. In addition, these containment enclosures may be completely enclosed or enclosed on the bottom and sides with an open or covered top. Where these containment enclosures are attached to a storage tank or other storage container, embodiments also include the associated apparatus for affixing the enclosures to the storage tank or other storage container.